

WHAT IS CLAIMED IS:

1. A thermoplastic molding composition comprising a graft polymer that contains:
 - 5 a) a continuous phase containing the polymerized product of at least one vinylaromatic monomer and at least one ethylenically unsaturated nitrile monomer, and
 - 10 b) a disperse phase containing ethylene/ α -olefin rubber that is grafted with the polymerization product of at least one vinylaromatic monomer and at least one ethylenically unsaturated nitrile monomer
- 15 wherein the weight average molecular weight of the continuous phase is 130,000 to 275,000 g/mole and where the disperse phase is characterized in that its weight average particle size is less than 0.90 μm , its degree of grafting (measured by gel value measurement in acetone as solvent) is 0.25 to 0.65, the ratio of the gel value measured in THF to the gel value measured in acetone is less than 0.1 and the glass transition temperature of the ethylene/ α -olefin rubber (determined by measuring the complex shear modulus as a function of the temperature) is less than -50°C .
- 20 2. The composition of Claim 1 wherein the vinylaromatic monomer is selected from the group consisting of styrene, α -methylstyrene, p-methylstyrene, divinylbenzene, C_{2-6} -alkylstyrenes and nuclear-substituted chlorinated styrenes.
- 25 3. The composition of Claim 1 wherein the ethylenically unsaturated nitrile monomer is selected from the group consisting of acrylonitrile and methacrylonitrile.
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4. The composition of Claim 1 wherein the α -olefin is at least one member selected from the group consisting of propene, 1-butene, 1-hexene and 1-octene.
5. The composition of Claim 1 wherein the ethylene/ α -olefin rubber further contain the structural units derived from at least one non-conjugated diene.
6. A process for the production of the molding composition according to Claim 1 comprising in a first stage polymerizing by free radical initiation a reaction mixture that contains at least one vinylaromatic monomer, at least one ethylenically unsaturated nitrile monomer, at least one aromatic hydrocarbon solvent and ethylene/ α -olefin rubber, in a continuously charged, thoroughly mixed and stirred tank reactor at a stationary monomer conversion of more than 30 wt% under condition sufficient to bring about phase inversion to produce a partially converted mixture and further polymerizing the partially converted mixture in at least one further stage in one or more continuously operating stirred vessels up to a monomer conversion of 70-99% characterised in that no molecular weight regulators are added.
7. The process according to Claim 6, wherein the residence time of the reaction mixture in the reactors is 1 to 10 hours and the reaction temperature in the stirred tank reactor is 100°C to 130°C.
8. The molding composition of Claim 1 further comprising at least one member selected from the group consisting of polycarbonate, polyamide, polyalkylene terephthalate, and a copolymer of vinylaromatic monomers and ethylenically unsaturated nitrile monomers.

9. The molding composition of Claim 8 wherein the graft polymer is present in an amount of 10 to 80 wt% and wherein said member is polycarbonate that is present in an amount of 20 to 90 wt%, the percents both occurrences referring to the sum total of graft polymer and polycarbonate.
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10. A molded article comprising the composition of Claim 1.